

Patent claims

1. An aqueous amino resin composition comprising amino resins **A**, formaldehyde-binding additives (auxiliaries) **B**, which if desired comprise hydroxyl-containing polyurethanes **B13**, if desired, acrylic resins **C** in the form of aqueous dispersions, and water, with the proviso that the presence of at least one of the components **B13** and **C** in the composition is mandatory where the component **B** consists only of at least one organic hydroxyl compound which is soluble in water or a monohydric alcohol having 1 to 4 carbon atoms and is selected from dihydric, trihydric and pentahydric alcohols containing up to 6 carbon atoms, pentaerythritol and sorbitol, monosaccharides containing up to 6 carbon atoms, disaccharides containing up to 12 carbon atoms, polysaccharides having an Ostwald viscosity of up to 200 mPa·s at 25°C and a concentration corresponding to 37% refraction, monohydric and polyhydric aromatic alcohols containing only one benzene ring, and monohydric and polyhydric phenols, and of at least one amide which is soluble in water where a monohydric alcohol having 1 to 4 carbon atoms and is selected from aliphatic amides containing up to 6 carbon atoms and aromatic amides containing only one benzene ring.
- 30 2. The aqueous amino resin composition as claimed in claim 1, wherein the amino resins **A** are water-soluble melamine resins, urea resins or melamine-urea cocondensates which are etherified with C₁ to C₄ alcohols.

3. The aqueous amino resin composition as claimed in
claim 1, wherein the amino resins **A** are methanol-
etherified melamine resins or melamine/urea resins
having an amount-of-substance ratio (molar ratio)
of melamine to urea to formaldehyde to methanol of
1 mol: (0 to 2 mol):(1.8 to 5.8 mol):(0.8 to
5.5 mol).
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4. The aqueous amino resin composition as claimed in
claim 1, wherein the ratio of the mass of component
B to the mass of the amino resin **A** in the mixture
is from 1 to 30:100.
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5. The aqueous amino resin composition as claimed in
claim 1, wherein the formaldehyde-binding
auxiliaries **B** are selected from mixtures **B1** of
organic amides **B11** having up to 10 carbon atoms and
from one to four nitrogen atoms, attached in
amidelike or imidelike manner, and polyhydroxyl
20 compounds **B12** selected from aliphatic linear and
branched compounds **B121** having from 2 to 6 hydroxyl
groups and 1 to 10 carbon atoms, monosaccharides
B122 having up to 6 carbon atoms, and disaccharides
B123 having up to 12 carbon atoms, and, if desired,
25 water-soluble or water-dispersible, hydroxyl-
containing urethane compounds **B13**.
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6. The aqueous amino resin composition as claimed in
claim 1 or 5, wherein urethane compounds **B13** are of
low molecular mass, having an above-average molar
mass M_n of from 150 to 5000 g/mol, and contain
30 hydrophilic groups.
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7. The aqueous amino resin composition as claimed in
claim 1, wherein formaldehyde-binding auxiliaries **B**
used comprise the components **B2**, which are
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obtainable by reacting polyhydroxyl compounds **B21**
selected from aliphatic linear and branched
compounds **B121** having from 2 to 6 hydroxyl groups
and 1 to 10 carbon atoms, monosaccharides **B122**
5 having up to 6 carbon atoms, and disaccharides **B123**
having up to 12 carbon atoms, and also aliphatic
aliphatic polyhydroxy amines **B211** having from 2 to
6 hydroxyl groups and 1 to 4 nitrogen atoms,
attached in an aminelike manner, per molecule, and
10 containing no free amine-type hydrogen atoms, with
monofunctional or polyfunctional aliphatic,
cycloaliphatic or aromatic isocyanates **B22**.

8. The aqueous amino resin composition as claimed in
15 claim 1, wherein the acrylic resins **C** are aqueous
dispersions of an acrylic copolymer in water, the
parent monomer mixture containing more than 50% of
its mass of acrylic monomers selected from acrylic
acid and methacrylic acid, their esters with
20 aliphatic alcohols having 1 to 10 carbon atoms,
their esters with aliphatic polyhydroxy compounds
having 2 to 10 carbon atoms and at least two
hydroxyl groups per molecule, and the nitriles of
said acids.
- 25 9. The aqueous amino resin composition as claimed in
claim 8, wherein the ratio of the mass of the
acrylic copolymer to the mass of the amino resin in
the mixture is from 0 to 150:100.
- 30 10. The use of the aqueous amino resin composition as
claimed in claim 1 for impregnating paper or
cardboard for use as finished foils or edgings.
- 35 11. A finished foil or edging comprising cardboard or
paper impregnated with the aqueous amino resin
composition as claimed in claim 1.

12. The finished foil or edging as claimed in claim 11,
wherein the mass per unit area of the paper or
cardboard following impregnation and subsequent
drying is greater by a factor of from 1.3 to 2.5
5 than that of the substrate that is used.